

BACKGROUND PAPER

SUBJECT: Joint Cruise Missile Defense (JCMD) Joint Test and Evaluation (JT&E)

PROGRAM SPONSOR: Developmental Test and Evaluation, S&TS, OUSD (AT&L)

BACKGROUND: In 1997, in response to the growing cruise missile threat, Pacific Air Forces Commander, General Richard B. Myers nominated JCMD to Air Combat Command for a JT&E. The Office of the Secretary of Defense (OSD) accepted the nomination and designated the Air Force as the lead Service to conduct a Joint Feasibility Study (JFS). With the aid of a Joint Working Group (JWG) composed of representatives of the Services, the JFS team scoped the JT&E to focus on the Joint Integrated Air Defense System (JIADS) Family of Systems that execute the five processes in the JCMD kill chain: detection, tracking, identification, allocation, and engagement. The JWG also assisted the JFS team in formulating the problem statement: **The Joint Integrated Air Defense “Family of Systems” capability to meet the cruise missile threat has not been fully explored.** Here, “Family of Systems” means all the individual surveillance, command and control, and shooter assets that make up a JIADS. The “Family” also includes the command and control architectures and the communications and data link networks that integrate the JIADS functions in the Cruise Missile Defense (CMD) role.

In June 1999, the JFS team completed the feasibility study and documented the results in an Analysis Plan for Assessment (APA). The study indicated that the JCMD JT&E was both necessary and feasible. The OSD Senior Advisory Council (SAC) accepted the study results and recommended that JCMD be chartered as a JT&E within available resources. With the SAC recommendation; the Director, Test, Systems Engineering and Evaluation—now under the auspices of the Director, Strategic and Tactical Systems—chartered the JCMD JT&E on 29 Jul 99. The JT&E Program is now under the Deputy, Operational Test and Evaluation.

PURPOSE: OSD chartered the JT&E to characterize the current and near-term effectiveness of a typical U.S. JIADS in countering a cruise missile threat. The resulting JT&E objectives are to: (1) Give Combatant Commanders a timely, definitive assessment of their capability to conduct an effective joint integrated air defense versus cruise missiles; (2) Develop a rigorous joint test methodology for JCMD; (3) Assess Joint and Service CMD Concept of Operations (CONOPS) and Tactics, Techniques, and Procedures (TTP); and (4) Identify and provide recommendations for improvements to the JCMD mission area. In conducting the JT&E, the JCMD Joint Test (JT) will address two issues:

Issue 1: What is the current (2002) JIADS capability to defeat cruise missiles?

Issue 2: How will near-future (2004-5) enhancements improve current capability as force multipliers?

PROGRAM ORGANIZATION: The Joint Test Director (JTD) organized the JT to include a mix of 29 government and civilian contractor personnel with extensive experience in test and evaluation as well as the operational aspects of the JIADS and its member systems.

TEST APPROACH: The JT will conduct the JT&E in three phases with Phase 0 consisting of a mini-test designed to reduce risk to the remainder of the JT&E. The other two phases, Phase 1 and Phase 2, correspond to the two JT&E issues. Each phase will combine field and simulation tests designed to assess the JIADS JCMD capability in terms of effectiveness of accomplishing each of the CMD mission functions and other related measures. Phase 1 will assess current JIADS JCMD capability, identify problem areas, and recommend enhancements/improvements to the mission area. Phase 2 will assess the increased effectiveness in JCMD capability resulting from the enhancements and identify further areas for improvement. The field tests will occur in

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conjunction with a Joint Combat Identification Evaluation Team (JCIET) evaluation or other suitable venue that features a robust JIADS conducting air defense operations against a robust threat that includes cruise missile surrogates. For the simulation tests, the JT will use the Boeing Virtual Warfare Center (VWC) as the hub for a federation of constructive and virtual models of the systems, data and communications links, and battle management structure of a typical JIADS in an operationally-representative scenario. The planned JT&E schedule is:

ID	Task Name	1998		1999		2000		2001		2002		2003		2004		2005		2006	
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
1	JCMD Major Milestones (Calendar Years)																		
2	Program Test Plan	6/28						4/27											
3	Mini-Test (MT) ASCIET 00			2/28		3/10													
4	Field Test 1 (FT-1) JCIET 02							4/8		4/26									
5	Simulation Test 1 (ST-1) VWC							9/9		9/20									
6	Simulation Test 2 (ST-2) VWC											2/23		3/12					
7	Field Test 2 (FT-2) CJTFEX 04													6/1		6/25			
8	Final Report and Closedown											3/15						9/30	

ACCOMPLISHMENTS: During FY00, the JTD established the JT and successfully planned and conducted a Mini-Test (MT) as a risk-reduction effort in conjunction with the All Service Combat Identification Evaluation Team (ASCIET—now JCIET) 00 evaluation near Savannah, GA. The JT also created, refined, and coordinated the JCMD Program Test Plan that provides a comprehensive description of the planned JT&E effort. During FY01 and FY02, the JT planned and executed FT-1 and ST-1. The JCIET 02 evaluation executed in the Gulfport/Camp Shelby, MS area served as the venue for FT-1. JCMD arranged for cruise missile surrogate participation, collected and analyzed the data, and prepared the test report. The JT also conducted ST-1 at the VWC in St. Louis, MO and collected the required data for the JIADS performance assessment. During FY03, the JT completed the analysis and reporting for ST-1, planned and conducted the First Annual Worldwide Cruise Missile Defense Conference and Exhibition, and completed the major portions of the planning for ST-2 and FT-2. In March 2004, the JT conducted ST-2.

PLANNED ACTIVITIES: During FY04, the JT will complete the planning for and execution of FT-2. The JT will then analyze the data and complete the test reports for ST-2 and FT-2.

TEST PRODUCTS: The JT has prepared a Transformation Change Package to institutionalize the JCMD test products via a CMD center of expertise within the U.S. Joint Forces Command (USJFCOM) in the form of a CMD Team that would also be capable of supporting JFCOM Joint National Training Capability (JNTC) efforts to support East Coast training activities. The principal functions of the CMD Team would include: (1) Planning and executing incorporation of realistic cruise missile surrogates into the opposition forces for JFCOM-sponsored exercises and tests/experiments (e.g., Joint Task Force Exercises); (2) Maintaining, upgrading, and using the Remote Operations Center to enhance JFCOM capability to plan, monitor, conduct debriefings and after-action reviews, and collect and analyze air defense-related data from JFCOM-sponsored exercises; and (3) Conducting or assisting with the design and execution of JFCOM-sponsored simulation exercises and combined field and simulation exercises that involve an air defense element and include a full spectrum threat that addresses enemy aircraft, cruise missiles, and theater ballistic missiles.

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